

Notice of Allowability

Application No.

09/963,418

Examiner

Pedro J. Cuevas

Applicant(s)

DOI, HIROFUMI

Art Unit

2834

NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on December 4, 2003.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 27 September 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 3 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No. <u>1203</u> | 7 <input type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 2 and 3, filed December 4, 2003, with respect to claims 1-6 have been fully considered and are persuasive. The rejection of claims 1-6 has been withdrawn.

Allowable Subject Matter

2. Claims 1-6 are allowed.

Sakamoto disclose the construction of a permanent magnet type brushless motor comprising:

a plurality of coils for switching a direction of magnetism generated by switching electrification;

a stator including a plurality of stator iron cores, for forming a magnetic pole by integrating magnetism generated by each of the coils; and

a rotor adapted to hold a permanent magnet, and rotated by attraction/repulsion between the permanent magnet and a magnetic pole of each of the stator iron cores.

Hoffman teach the construction of a stepper motor with stator biasing magnets having a housing provided to integrally cover the stator and the rotor, and an output shaft gear formed in an output shaft of the rotor for the purpose of providing a motor with low rotational inertia.

Bustamante et al. teach the construction of a two-phase stepper motor having an output shaft gear formed in an output shaft of the rotors and connected to a gear to be driven, of a member to be driven for the purpose of obtaining high torque output.

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3. The following is an examiner's statement of reasons for allowance.

The prior art of record, taken alone or in combination, fails to teach the construction of a stepping motor as described on independent claim 1, wherein the method of setting the number of teeth for the output shaft gear is determined by using a predetermined ratio with respect to the number of magnetically stable points per rotation of the rotor, in order to hold said member to be driven in a reference position when the coil is electrified by a regulated electrification pattern, as explained by the equations on pages 15-17 of Applicants disclosure.

Dependent claims 2-6 are considered allowable by their dependence on allowed independent claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

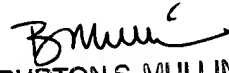
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
January 20, 2004


BURTON S. MULLINS
PRIMARY EXAMINER